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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,875

09/29/2006

Gunther Hirschmann

06606/MJC

4604

1933 7590 05/28/2009

FRISHAUF, HOLTZ, GOODMAN & CHICK, PC  
220 Fifth Avenue  
16TH Floor  
NEW YORK, NY 10001-7708

EXAMINER

ALEMU, EPHREM

ART UNIT

PAPER NUMBER

2821

MAIL DATE

DELIVERY MODE

05/28/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,875	<b>Applicant(s)</b> HIRSCHMANN ET AL.	
	<b>Examiner</b> Ephrem Alemu	<b>Art Unit</b> 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/29/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

2. Claim 3 is objected to because of the following informalities: In claim 3, line 3, replace “to the transformer” with --of the transformer--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2, lines 2-6, recites “the series resonant circuit (L3, C4) is connected to the secondary winding (T1b) of the transformer (T1) and, when a high-pressure discharge lamp is connected, is connected in parallel with the discharge path of the high-pressure discharge lamp (La)”. However, it is not clear to the examiner what is being claimed. The claim is vague and indefinite in which the scope of the claim could not be determined.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Segoshi et al. (US 5,124,895).

Re claims 1 and 9, Segoshi discloses a circuit arrangement for operating high-pressure discharge lamps, the circuit arrangement having the following features, a voltage converter (410) for generating an AC voltage, a transformer (413) having a secondary winding, which is connected to the voltage converter or is formed as part of the voltage converter (Fig. 3), a load circuit (130), which is fed by the secondary winding of the transformer and has terminals for a high-pressure discharge lamp and the ignition voltage output of a pulse ignition apparatus, which serves the purpose of igniting the gas discharge in the high-pressure discharge lamp, characterized in that a symmetrical voltage-doubling circuit (131) is provided for supplying voltage to the pulse ignition apparatus during the ignition phase of the high-pressure discharge lamp (120) from the secondary winding of the transformer (413) (Fig. 3; Col. 3, lines 58-66).

Re claim 11, Segoshi further discloses the voltage converter (412) is in the form of a current-fed push-pull converter (Fig. 3).

7. Claims 12, 13, 15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Decker (US 6,392,363).

Re claim 12, Decker discloses a pulse ignition apparatus (i.e., starter) for igniting a gas discharge in a high-pressure discharge lamp, the pulse ignition apparatus (i.e., starter) having a

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voltage input for its supply voltage (1, 2), characterized in that the pulse ignition apparatus (i.e., starter) has a voltage-multiplying cascade circuit whose output voltage is supplied to the ignition transformer (7) (Fig. 1; abstract; Col. 2, line 57 – Col. 3, line 20).

Re claim 13, Decker further discloses the pulse ignition apparatus (Figs. 1-4) has a capacitor (C2, C4), which is connected in series with the secondary winding (9) of the ignition transformer (7) of the pulse ignition apparatus (Figs. 1-4), is formed as part of the series resonant circuit (C2, C4, 9) and is dimensioned such that it essentially represents a short circuit for the ignition voltage pulses generated by the ignition apparatus (Figs. 1-4) and, once the gas discharge in the high-pressure discharge lamp has been ignited, brings about partial compensation of the inductance of the ignition transformer (Figs. 1-4; Col. 2, line 57- Col. 7, line 55).

Re claims 15 and 17, Decker further discloses a circuit including a starter for performing method for operating a high-pressure discharge lamp by means of a voltage converter (i.e., bridge circuit not shown) and a pulse ignition apparatus (i.e., starter Figs. 1-4) (Col. 2, lines 57-65); the supply voltage for the pulse ignition apparatus being generated with the aid of the voltage converter (i.e., bridge circuit not shown), characterized in that, during the ignition phase of the high-pressure discharge lamp, an increase in the supply voltage for the pulse ignition apparatus is carried out with the aid of a voltage-multiplying cascade circuit (abstract; Col. 1, lines 46-55); wherein the voltage-multiplying cascade circuit is deactivated (i.e., isolated) once the gas discharge in the high-pressure discharge lamp has been ignited (Col. 3, lines 43-51).

8. Claims 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Eriguchi (5,491,386).

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Re claims 15 and 16, Eriguchi discloses a lighting device for performing a method for operating a high-pressure discharge lamp by means of a voltage converter (i.e., inverter circuit 11) and a pulse ignition apparatus (i.e., lighting driving section LO), the supply voltage for the pulse ignition apparatus being generated with the aid of the voltage converter (i.e., inverter circuit 11), characterized in that, during the ignition phase of the high-pressure discharge lamp, an increase in the supply voltage for the pulse ignition apparatus is carried out with the aid of a series resonant circuit (13) (Figs. 2a, 2b; abstract; Col. 4, lines 13-65); wherein once the gas discharge in the high-pressure discharge lamp has been ignited, the high-pressure discharge lamp is operated at AC voltages whose frequency is above the resonant frequency of the series resonant circuit (13) (Col. 5, lines 36-64).

9. Claims 15 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hitchcock (US 4,683,404).

Re claims 15 and 18, Hitchcock discloses a lighting apparatus for performing a method for operating a high-pressure discharge lamp by means of a voltage converter and a pulse ignition apparatus, the supply voltage for the pulse ignition apparatus being generated with the aid of the voltage converter, characterized in that, during the ignition phase of the high-pressure discharge lamp, an increase in the supply voltage for the pulse ignition apparatus is carried out with the aid of a series resonant circuit, which is operated close to its resonance, or a voltage-multiplying cascade circuit or a symmetrical voltage-doubling circuit or by means of the combination of a series resonant circuit with a voltage-multiplying cascade circuit or a symmetrical voltage-doubling circuit (Fig. 1; Col. 2, line 4- Col. 3, line 34).

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10. Claims 1, 2 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Harada et al. (US Pub. 2005/0179406).

Re claim 1, Harada discloses a circuit arrangement for operating high-pressure discharge lamps (8), the circuit arrangement having the following features, a voltage converter (2) for generating an AC voltage, a transformer having a secondary winding, which is connected to the voltage converter (2) or is formed as part of the voltage converter (2), a load circuit (7), which is fed by the secondary winding (T1b) of the transformer and has terminals for a high-pressure discharge lamp (8) and the ignition voltage output of a pulse ignition apparatus (7), which serves the purpose of igniting the gas discharge in the high-pressure discharge lamp (8), characterized in that a series resonant circuit (9, 6) or a voltage-multiplying cascade circuit or a symmetrical voltage-doubling circuit or the combination of a series resonant circuit with a voltage-multiplying cascade circuit or a symmetrical voltage-doubling circuit is provided for supplying voltage to the pulse ignition apparatus (7) during the ignition phase of the high-pressure discharge lamp (8) (Figs. 1, 3; paragraphs [[0026] – [0043]).

Re claim 2, as best understood, Harada further discloses the series resonant circuit is connected to the secondary winding of the transformer and, is connected in parallel when the high-pressure discharge lamp is lighted (Fig. 3).

Re claim 7, Harada further discloses the voltage-multiplying cascade circuit is supplied with energy during the ignition phase of the high-pressure discharge lamp (8) from the secondary winding of the transformer (2) (Figs. 1, 3).

11. Claims 1, 3-6, 8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Muramatsu (US 7,084,580).

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Re claims 1, 3 and 8, Muramatsu discloses a circuit arrangement for operating high-pressure discharge lamps (10), the circuit arrangement having the following features, a voltage converter (3) for generating an AC voltage, a transformer (7) having a secondary winding (7s), which is connected to the voltage converter (3) or is formed as part of the voltage converter (3), a load circuit which is fed by the secondary winding (7s) of the transformer (7) and has terminals for a high-pressure discharge lamp (10) and the ignition voltage output of a pulse ignition apparatus (4), which serves the purpose of igniting the gas discharge in the high-pressure discharge lamp (10), characterized in that a series resonant circuit (8, 9) or a voltage-multiplying cascade circuit or a symmetrical voltage-doubling circuit or the combination of a series resonant circuit with a voltage-multiplying cascade circuit or a symmetrical voltage-doubling circuit is provided for supplying voltage to the pulse ignition apparatus during the ignition phase of the high-pressure discharge lamp (10); wherein the series resonant circuit (8, 9) is connected on the primary side to the transformer (7p) (Figs. 1-7; Col. 3, line 8- Col. 8, line 11).

Re claim 4, Muramatsu further discloses the resonant inductance (9) of the series resonant circuit (8, 9) is in the form of an autotransformer (9, 16), whose secondary winding (16) can be connected to the voltage input of a pulse ignition apparatus (4) (Figs. 5-7).

Re claims 5 and 6, Muramatsu further discloses a capacitor (11) is arranged in the load circuit, is connected in series with the secondary winding (16) of the ignition transformer of the pulse ignition apparatus (4) when the pulse ignition apparatus is connected and is dimensioned such that it essentially represents a short circuit for the ignition pulses generated by the pulse ignition apparatus and, once the gas discharge in the high-pressure discharge lamp (10) has been



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ignited, brings about partial compensation of the inductance of the ignition transformer (9, 16), the capacitor (11) is formed as part of the series resonant circuit (Figs. 5-7).

Re claim 10, Muramatsu further discloses the voltage input of the symmetrical voltage-doubling circuit is connected into the voltage converter (5, 6, 7) on the primary side (7p) of the transformer (7) (Figs. 1-7).

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over Decker (US 6,392,363) in view of Neumeier et al. (US 7,042,169).

Re claim 19, Decker does not show a high-pressure discharge lamp having a pulse ignition apparatus as claimed in claim 13 arranged in the lamp base.

Neumeier discloses a gas discharge lamp base comprising ignition device for the purpose of releaseably connecting a gas discharge lamp with the lamp base.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Decker's pulse ignition device by arranging it in the gas discharge lamp base as taught by Neumeier for no other reason than having a compact high-pressure discharge lamp releaseably coupled within the lamp base.

### ***Conclusion***

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14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Klipstein et al. (US Pub. 2005/0212457); Izumi et al. (US Pub. 2005/0057181); Lakin et al. (US 6,124,682); and Pruett (US 5,861,718); also teach similar inventive subject matter.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EA  
5-26-09

/Douglas W Owens/  
Supervisory Patent Examiner, Art Unit 2821  
May 26, 2009